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VOL. VII. AUGUST, 1911. No. 8.

Preventive Medicine: What It Has Done and What It Can Do If the State Will But Recognize Its Obligations to the Public.

JOSEPH A. WHITE, A. M., M. D., Richmond, Va.

When his Satanic Majesty destroyed the Terrestial Paradise of the Garden of Eden by inoculating Mother Eve with the germ of discontent, he sowed also other germs that have borne fruitful crops of disease, but he covered his seed so well that it has taken the medical profession all the thousands of years that intervened between then and about forty years ago to get upon the trail.

In Exodus, chapter XV, verse 26, it is recorded that Moses, the great law giver and physician, said to his people: "If thou wilt hearken to the voice of the Lord, thy God, and will do what is right in his sight, and will give ear to his commandments, and will keep all his statutes, I will put none of those diseases upon thee which I have brought upon the Egyptians."

Here Moses foreshadowed modern preventive medicine, in as much as he promised immunity from the infectious diseases then prevalent among the Egyptians, if his people obeyed the laws laid down in regard to health and right living. Just as in these days if such laws are obeyed or enforced, we will escape the ills that come of their violation.

And for more than thirty years the medical profession, having once started on the correct trail, has been trying to commit professional suicide by directing all its efforts to the eradication of disease for the prolongation and conservation of human life.

It has made astounding discoveries of the causes of disease, and its old traditions are gradually disappearing. Our age is one of wonderful progress in all departments of science, and our profession is keeping pace with the age.

Preventive medicine is the corner stone of our future achievements, and although it has already lengthened the average age of man in civilized communities, it is still in its infancy.

Its triumphs in the last decade, however, hold out hopes of greater things in the future and, as Dr. Osler has said in a recent article, "Man's Redemption of Man," lies in the successful work of this science. Its development into a special science is the result of the revolution in our conception of the nature of maladies that have so afflicted the human race in the past, thus enabling us to take such measures, sanitary and otherwise, as to prevent their spread.

The high rank attained by the medical profession of this day, its great importance in the public eye, is because of its power to prevent or avert disease, and not because of its ability to cure. How much this power would be enhanced, how much more it could accomplish if our profession was represented in the central government with a special bureau of sanitation and preventive medicine, presided over by a medical officer as a member of the cabinet, can hardly be estimated.

The warfare against preventable disease, and every year we are adding more human afflictions to this category, would be more successfully waged as appropriate legislation to this end would be enacted by the National and State governments.

When this is done, and the necessary legal enactments enforced, fifty years hence will see many of the present scourges of the human race eradicated, and the time of human life still more prolonged.

Less than fifty years ago the germ theory of disease first saw light, and Lister and Pasteur were among its first exponents, but to Robert Koch we owe the solution of the connection between bacteria and infectious disease.

In 1876 he gave us his work on Anthrax.

In 1882 he discovered the bacillus of tuberculosis, and later gave us tuberculin as a means of diagnosis, and according to some, an agent for immunization.

In 1883 he found the comma-bacillus of cholera, which resulted in practical preventive measures against its spread by recognizing the cases early and isolating them.

In 1896 he confirmed Ronald Ross' discovery that the malarial parasite (the hæmamœba) was carried by mosquitoes (the anopheles) and gave us the idea of its prevention by the use of quinine to stop the development of the toxins.

His studies of typhoid fever resulted in the present methods for its suppression.

More, therefore, than to any other one man, we are indebted to Robert Koch for the fundamental knowledge of the pathology of infectious diseases, upon which preventive medicine is founded.

Others have added much to this knowledge that is of inestimable value.

Neisser discovered the germ of gonorrhœa in 1879.

Laveran of malaria (hæmamœba) (1880).

Eberth the bacillus of typhoid fever (bacillus typhiabdominalis) (1880).

Klebs the germ of diphtheria (Klebs-Lœffler bacillus) (1883).

Kitasato the germ of tetanus (1889).

Castellani of sleeping sickness (trypanosome) (1892).

Yersin that of bubonic plague (1894).

Shiga that of dysentery (1898).

Weichselbaum of cerebrospinal meningitis (diplococcus-intracellularis).

Schaudinn that of syphilis (1905).

The demonstration by Reed, Carroll and Agramonte of Dr. Carlos Finlay's hypothesis that yellow fever was transmitted by a species of mosquito (the stegomeia), as Koch had done in regard

to malaria, made the method of its prevention a simple matter.

Yellow fever killed hundreds of thousands prior to 1900. Reed, Carroll and Lazear experimented on themselves with the mosquito to confirm the above mentioned hypothesis, proved its accuracy, and the sacrifices it entailed to themselves saved the lives of thousands.

Look at the results in Cuba and Brazil. Is there any greater achievement in human annals?

Panama, called the graveyard of the white man, has, because of the discoveries about malaria, been made as healthy if not more so, than any city in the United States. Could preventive medicine have any greater monument?

Equally successful warfare has been, and is being, waged with other infectious diseases.

Typhus fever has been practically eliminated.

Koch gave us the control of cholera. The cause of typhoid fever being known, sanitary measures to keep the water free from contamination and the destruction of the house fly, its common carrier, go far towards its prevention.

Tuberculosis.

Tuberculosis, one of the greatest of human plagues, has been robbed of half its terrors since the discovery of its causation. Sanitary and preventive medicine has reduced its mortality at least 50 per cent., and if it could be brought under such control as is possible without modern methods, rigidly applied by appropriate laws, the so-called "Great White Plague" would be reduced to a minimum. We know how it is caused, how it is spread and how it can be prevented or even cured if taken in time, and yet for lack of such control, it is still killing more people than any other single disease.

A public campaign has been inaugurated in this country and has interested scores of people who are giving their aid to the medical profession in their efforts to stamp out this disease. This should be fruitful in results, but as Dr. Osler says: "The means instituted present difficulties interwoven with the very fabric of society, but they are not insuperable and are gradually disappearing."

Plague.

The discovery that the plague was carried by rats and their attendant fleas has gone far towards its banishment from civilized communities, and the fight in California since 1900, which resulted in its limitation to a small danger zone less than forty miles square, shows what can be done. Its present death march through Manchuria is due to neglect of all the simplest means for limiting its spread.

Cancer.

Cancer is another of the human plagues that would be materially lessened by popular education on the subject. There are 80,000 cases and 40,000 deaths annually in these United States, half of which could have been readily cured by early diagnosis and appropriate treatment.

Nearly all acute diseases are due to bacterial infection, and bacteria cannot propagate on poor soil. Good sanitation is the reverse of good farming. Its object is to present as poor soil as possible to infectious agents, to do away with bad drainage, contaminated water, poorly constructed dwellings, overcrowding of human beings and overworking them, improper food and the excessive use of stimulants, tobacco and drugs, and this can only be accomplished in time by such legal means to this end as can be enforced.

The discovery of the specific germs of various diseases, and the laboratory investigations of them brought about the development of protective inoculation and vaccine therapy on a scientific basis, as presented by:

Pasteur, in rabies;

Haffkine, in cholera;

Shiga, in dysentery;

Leishman and Chantemesse, in typhoid fever;

Behring, in diphtheria;

Flexner, in cerebrospinal meningitis;

Kitisato and others, in tetanus;

Yersin, in plague.

Vaccination against typhoid fever is being experimented with, and has been partially successful.*

The scientific application of this principle to bacterial disease, it is hoped, will ultimately give us such results that most of these diseases will be a thing of the past. Most of the anti-bacterial serums thus far tried have not met with the success expected of them, except Flexner's serum for cerebrospinal meningitis, and probably the Pasteur treatment for rabies. Pasteur and Koch were the first to employ vaccine therapy, but Wright laid down the guiding principle of this treatment in establishing an index to determine the effect and course of the reaction, viz., the opsonic index.

Further investigation and experimentation may give us as great results from other anti-toxins as have been demonstrated in regard to diphtheria anti-toxin.

It is hoped that some day a specific will be found for every germ disease, i. e., a remedy that when taken or injected into the system will destroy the disease germ without injuring the healthy tissues.

Protective inoculation, as in smallpox (Jenner), is to produce artificially a state of immunity against certain poisons that produce disease by being inoculated with the bacteria or bacterial products of that disease, just as an attack of smallpox, scarlet fever, yellow fever, etc., protects against a subsequent attack.

The attack produces a certain anti-toxin that fortifies the system against the invasion of certain germs or against the production of the toxins manufactured by these germs, i. e., bacterial immunity is thus acquired naturally.

So, also, acts the anti-toxins which are substances injected into an individual to protect him against the toxins of a specific disease, and give an artificially acquired immunity.

But practically all the remedies which destroy living organisms in the body tissues are poisonous, and if the dose required to do this is so large as to be dangerous, they are useless, because to be of practical value they must destroy the offending organism without injury to vital organs.

Remedies of this character are divided into vaccines or serums and chemical agents, or serum-therapy and chemo-therapy.

Animal parasites causing such diseases as malaria, trypano-somiasis, or sleeping sickness, amœbic dysentery, syphilis, etc., cannot be destroyed by any known serum-therapy, and must be made to yield such chemical agents as will render them non-toxic, just as quinine has been used in malaria for many years.

In the last few years, Ehrlich has done enough in this latter line of work to make

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*In 1896 Pfeiffer did the pioneer work. Leishman in three years and a half prior to 1908 showed that of 5,473 vaccinated, only 21 took the disease, and two died; whereas of 6,610 not vaccinated, 187 took it, and 26 died. In Peshawur, India, an epidemic in the army was cut short by vaccinating 70 per cent. of the command.

In our own army, among 8,510 vaccinated not one took the disease, although 200 among the unvaccinated were attacked.

"Carriers" have been cured by six inoculations. The vaccine produces specific anti-bodies, which destroy typhoid bacilli. The injection is made subcutaneously, but no one should be vaccinated who is not perfectly healthy. First dose should be 500 million; second, 1,000 million, ten days apart.

There is slight constitutional reaction, malaise and headache. Local reaction, redness, etc., and some times tenderness of axillary glands. Anaphylaxis (or increased susceptibility) has not been demonstrated. Length of time for immunity undetermined, but about six months. Uses, prevention when an epidemic exists—in families where a case is, in hospitals, army posts, etc.

him immortal, in addition to his discoveries in regard to toxin immunity.

Atoxyl was empirically shown to be useful in sleeping sickness, but was found to be dangerous. Ehrlich, in experimenting with this substance in animals, found a great number of derivatives (over 600) of which only a very few proved to be valuable in killing the parasites, without damaging the organs of the animal. The most important of these were No. 418, arseno-phenyl-glycin for sleeping sickness, and No. 606, or arseno-benzol, for syphilis.

Sleeping Sickness.

Trypano-somiasis, or sleeping sickness, is the scourge of equatorial Africa, the germs of which are transmitted by the tsetse fly. Ehrlich's No. 418 has cured a large number of cases with one or two injections of a very small dose, but the mode of usage and dosage is still in the experimental stage.

Syphilis.

Syphilis has been known for 400 years, and done incalculable damage to the human race; but only in 1905 was its cause discovered by Schaudinn to be a germ known as spirochæte pallida of the parasite family of spirilla. Mercury and iodide of potash have a tendency to diminish the toxicity of these germs if not to destroy them, and have been our main dependence.

Ehrlich found the remedy that destroys the trypanosome was useless in syphilis, and further experiments discovered that the 606th derivative of atoxyl, arseno-benzol, or salvarsan, causes the immediate disappearance of the spirochæta, when injected into an infected rabbit. His late improvement of this drug, which is less toxic, is known as "hyper-ideal."

By its use syphilis has been made controllable and to some extent preventable. The spirochæte disappear from seven to ten days after infection. It acts by causing leukocytosis and formation of antibodies.

Its early use cuts short the attack and prevents secondary and tertiary symptoms in many cases, but not all. In syphilitic mothers its use is said to prevent infection and saves the child from its fatal inheritance. Thus far it has not done all that was expected of it, although it has made a remarkable record, and with further knowledge of its application, it may meet all expectations. But it is an arsenical preparation, and, therefore, poisonous and dangerous. It has caused hopeless blindness and produced other ill effects. It cannot be used by the patient, but only by a physician, as it must be given intra-muscularly, preferably in the gluteal region, or by intra-venous injections, and only to suitable subjects, as there are cases where it is contra-indicated.

The important question now at issue is what dose should be given at different stages of the disease, and what is the best way of giving it.

The achievements in chemo-therapy have, however, been wonderful, and opened up a great field for the alleviation of human suffering and prevention of disease.

Obstetrics.

Preventive medicine, to be effective, should begin at the beginning in guarding the unborn child from hereditary trouble; in fact, it should go behind this, and prevent the union of those unfit to propagate the species. As far as possible, this is done in the animal and vegetable kingdoms, and the day may come when suitable legislation may accomplish the same among the human species, viz., only the breeding of the best from a physical and moral standpoint. This would only be an improvement of the old Spartan custom of making way with all maimed, diseased or defective infants to save the State the expense of rearing undesirable citizens. A step in this direc-

tion has been taken by the women of Colorado, who have introduced a clause to this effect in their recent bill regulating marriage laws.

Waiting for this much desired goal, the next best thing is prophylaxis in the puerperal state, as nearly all the diseases of the new born are preventable, especially the infectious diseases, and here the question of regulation of midwives is an all important consideration, as thousands of women and children are annually sacrificed on the altar of the ignorance and incapacity of these women.

Infant Mortality.

The question of infant mortality is a burning issue at present, because of the heavy mortality the past summer; has engaged the attention of our municipal authorities in most of our large cities, and in some of its aspects should be investigated by the State with a view to the prevention of the causes of the deplorable loss of life among our infant population. The babies of this generation are the material out of which the citizens of the next are made, and the State should give them proper protection. For instance, diphtheria still kills too many children, and physicians are partly responsible for it, in as much as they don't or won't use the means of prevention that science has given them, the proper employment of anti-toxin.* Twenty thousand children died in America of diphtheria in 1909—statistics for 1910 were not available. Fourteen thousand of these deaths were attributable to the doctor's ignorance or carelessness. The death rate ought to be only six in 100,000 of the population, as it is in Paris, the effect of their admirable laws; and appropriate legislation would give us the same results. France is far ahead of us in measures to care for its infants, especially through the education of the mother. With a comparatively small birth rate, it has no children to spare and must guard well those it has.

Here it may be asked if anti-toxin is dangerous. Possibly, in rare cases when anaphylaxis has been produced by its use in a previous attack, or by immunizing doses a short while before the attack, within three weeks. It should then be used with caution, or not at all, but these fatalities are so rare as hardly to be considered.

Cerebrospinal Meningitis.

One of the greatest triumphs of preventive medicine in reducing infant mortality is the control of that terrible malady of childhood, cerebrospinal meningitis, by the isolation of the specific germ (the diplococcus intra-cellulatis), and the later discovery of a serum by Dr. Flexmer to neutralize or prevent the toxins.

School Hygiene.

School hygiene plays an important part in preventive medicine. The systematic examination of school children that has been inaugurated in many of our cities, and which should, by State legislation, be made compulsory in all schools, goes far to safeguard these little ones against the evil results of overlooking the various affections of the eye, ear and throat. Impairment of vision is discovered in time to correct any existing astigmatism and prevent the diseased condition, known as progressive myopia, or nearsight, as also the asthenopia, or weak eyes, so often due to some systemic condition of which it is only a symptom. The correction of impaired vision by the adaptation of glasses is not, therefore, the only remedy, because the impairment may be the result of some constitutional condition that requires investigation and treatment. But

*In mild cases, 3,000 units is the initial dose, in the first 24 hours, 6,000 units if 36 hours have elapsed; and in 8 hours if no marked improvement, same or larger dose, to be repeated every 6 or 8 hours until convalescence. The cost of production of 6,000 units is about 35 cents, and sells for $10, and at least $30 worth is required for any case, practically prohibitive for the poor, unless the State puts it within their means, and in some localities this is being done.

the prescribing of glasses is of as much remedial importance as prescribing of drugs, and no one but a trained physician should be allowed to do this work. The effect of eye strain on the nervous system of the child, and the many resulting disorders of mind and body that follow from neglecting or improperly treating the eye trouble that causes it, have been so well demonstrated again and again by scientific investigation that it seems superfluous to refer to it here. Yet I feel constrained to do so because of the well-known disregard of such an important matter by our health authorities and the State. The public should receive appropriate education along these lines, and the State should restrict the adaptation of glasses to those competent to prescribe them, if we would protect these children from the evil consequences of misfit lenses.

Nasal obstruction and its serious complications of mouth breathing and commencing deafness are discovered and treatment applied early enough to prevent the damaging results of its neglect. Preventive surgery has its field as well as preventive medicine, and there is no more important work in this line than the early removal of adenoids, if obstructive to normal breathing, and of the tonsils when they have given trouble, and show evidence of being a menace to the organism as a focus of infection.

Ophthalmia Neonatorum.

Among the preventable afflictions of the human race is the blindness resulting from the purulent ophthalmia of infants. This plague has been made the subject of special legislation by the A. M. A., and through its subcommittees in every State has tried to get State laws for its suppression, and the Russell Sage Foundation has appropriated money to assist in this work. It is readily preventable, and every physician knows, or should know, its cause, its infectious character, its dangers to sight, its prophylaxis, and its treatment when preventive measures have not been taken. When it occurs in the practice of any physician, it is due to his negligence or ignorance.

Therefore, every case is a disgrace to the profession, and a blot on our civilization. Think of it! Sixty thousand blind persons in the United States, of which 20 per cent. to 45 per cent. are blind from ophthalmia neonatorum, blind because of the ignorance of the midwives who have officiated at the births in place of the physician. What a commentary on modern up-to-date preventive medicine.

Should not something be done to make our preventive knowledge effective, and save the sight of these little ones? A campaign of education should be instituted among physicians to awaken them to the importance of this subject, the public made to understand what it is and what should be done to prevent it, and among midwives to make them appreciate one of their most essential duties in their attendance upon a birth. Legal enactment should be passed in every State making birth reports obligatory (a most important factor in vital statistics) within thirty-six hours by whoever presides at the birth, and in addition a report within six hours of any eye trouble manifesting itself.

Midwives should be placed under legal control by requiring them to be registered and licensed, and to meet certain requirements before being registered, and to be held responsible for neglect in reporting births or ophthalmia promptly, under penalty of losing their license.

Both physicians and midwives should be compelled to use the prophylactic treatment in all infants' eyes at birth, and this can only be accomplished by proper legislation, as has already been done in some States.

Why should Virginia and the Carolinas be behind in this important work?

The profession of these three States

could do much towards having the needed legislation passed, and this Association would be an important factor in such a crusade.

Defective Vision.

Take also the question of increasing defective vision among adults, where preventive measures have such a fertile field.

Mr. John Darch stated before the Congress of the Royal Sanitary Institute recently held at Brighton, England, that "defective vision was the outcome of ill-regulated civilization, and it is estimated that about half the students and close working classes are sufferers therefrom in one way or another. Insufficient lighting in schools, offices and workshops is largely responsible for the increase of myopia, astigmatism and their attendant nerve troubles."

If the State would enact some legislative regulations to compel adequate lighting of all places where close work is carried on, it would prevent many of these troubles. That the State has the right and power to do this, if it will recognize its duty, is unquestioned. The subject of proper illumination of all places where people congregate and work should be as much considered by the State authorities as proper drainage.

It is as much the duty of the State to look out for the preservation of the health of its citizens as for their protection from injury or robbery. That this is to a certain extent recognized is shown by the establishment of government, State and civic health boards all over the civilized world. No one questions the right of the State to isolate persons suffering from contagious diseases, and to restrain their personal liberty to such an extent as may prevent others from being infected. This right should apply equally in all directions that can prevent diseased conditions of any kind, which might impair the usefulness of the citizens, or imperil the health of the community.

Recently a decision was rendered in Minnesota that a municipality was liable for deaths from typhoid fever if it carelessly allowed its water system to become polluted. Diseases are, however, contracted in other ways as well, and most of them are unnecessary, being the result of ignorance of the commonest laws of health, and, therefore, are preventable. Prevention is the only treatment, because once contracted, quite a number are incurable.

When scientific medicine has discovered the cause of any disease, and demonstrated that it can be controlled or prevented by certain measures, provided these measures can be applied, it is the duty of the State to vest its health authorities with the power to enforce their application whenever and wherever needed.

As for example, compulsory vaccination for smallpox, the compulsory use of anti-toxin in diphtheria, etc., just as we are now having a compulsory quarantine in well known infectious and contagious diseases by excluding or isolating persons who have been exposed to the risk of contagion.

The question of invasion of personal rights and personal liberty should never obtain in the case of the few when we consider the risk of the many.

Boards of health are doing much, but not enough, because of the lack of authority. Their work is all uphill work, because the protection of the public health often requires the individual to do what he is unwilling to do, and it is difficult to make him see the necessity of this, unless some personal or family disaster or affliction brings it home to himself. Fear or affection often converts the obstructionist to a realization of the importance of public health problems when no argument could convince him.

It is a strange commentary on human intelligence that there are regularly organized anti-vaccination societies, formed to combat vaccination against smallpox;

in fact, to fight for the continuance of one of the most destructive of diseases, and in consequence many States lack a compulsory vaccination law.

When the public health authorities have the power and the means to enforce their orders for the protection of the community against disease, they can afford more efficient protection in this regard than the courts and police could give against injury or robbery, as has been demonstrated in Cuba in the eradication of yellow fever, and in Panama of malaria. With the power and the money to meet expenses, the public health problems would be readily solved.

Funds to carry out their work are in most places lacking, because our government, states and municipalities are mostly niggardly in appropriating the means to do what should be done to prevent or control disease. Where did the means for the campaign against hookworm disease come from? Not from the States where it was prevalent.

Germany is far ahead of us in this respect, and its government gives liberally towards scientific investigation into the causes and control of disease in its universities and hospitals, and to its public health authorities in the practical application of the results of such investigation.

Look at the names of the discoverers of the causes of disease. Not an American among them, because of lack of means and facilities for making the necessary investigations.

The public health in all its aspects should receive as much attention from the National and State governments as questions of policy, finance, commerce, etc., if from no other motive than that of pocket, viz., from an economic standpoint.

If the citizen is diseased, his usefulness is curtailed; if as a result of disease he is maimed, crippled or blinded, he often becomes a burden to the community, if his life thereby is cut short, his services are ended. Has anyone ever calculated the economic loss to the country that might be materially reduced by giving the same attention to the preservation of the human species as is given to animals? It must amount to millions annually if we figure that every individual life has an actual value in the work it is supposed to do in the community.

Sooner or later, the day will come when the value of human life will outweigh all other considerations, and the battle against disease, which modern preventive medicine has inaugurated, will enlist all the people when they are made to realize its importance to themselves individually, in the present, and to the human race at large, in the future.

The Significance of the Bacillus Coli in Water.

F. L. Parker, Jr., Ph. D., M. D., Charleston, S. C.

A great deal has been written on the significance of chemical and biological tests for the purpose of ascertaining the sanitary purity of water supplies, and various views have been entertained regarding the value of bacterial analyses. With respect to river waters the results of the various investigations have been fruitful, and have taught us this much, at least, that there is a fallacy in the old adage that running waters purify themselves in a given length of time or course. The truth of this adage has failed in the light of scientific investigation, and many mistakes have been made on account of its supposed correctness, and the ignorance of the fact that the swifter the current the less rapid the purification. Quiescence and sedimentation are among the most important factors, and the old

adage has given place among sanitarians to the axiom that no river is long enough to purify itself of sewage. This being the case, biological tests have little significance in the determination of the purity of river waters, since it is admitted that no river having access to sewage is a safe source of supply for domestic use, and that all river water should be filtered. The tests can only be of value in determining the amount of pollution and the treatment necessary to remove the contamination. A large amount of sewage increases the danger; but a small amount does not necessarily preclude it, since the sewage from one case of typhoid fever is sufficient to contaminate a river, and a number of epidemics of typhoid have been traced to one case of fever on sparsely inhabited watersheds. What then is the significance of the bacillus coli communis in river waters, and why do bacteriologists burden themselves with making tests of a water that is admitted to be unsafe, and is subject to considerable variation, being pure today and impure tomorrow? The answer is, except for the purpose of determining the necessary amount and efficiency of treatment for purification, this test has no significance in a river water.

It is certain that typhoid fever cannot originate spontaneously from a water which does not contain the typhoid bacillus, and we may naturally ask, why not search for the typhoid bacillus instead of confining our investigation to tests for the coli-group? Why assume the bacillus coli to be indicative of contamination, and why condemn a water on account of its presence, when it may have been derived entirely from the intestinal tracts of animals, and be innocuous so far as typhoid fever is concerned? The isolation of the typhoid bacillus from water is impractical for a number of reasons. The bacillus occurs in comparatively small numbers in the excreta from typhoid patients, even at the time of its greatest abundance, and is probably outnumbered by the coli and other bacilli in the ratio of 50,000 to 1. The conditions outside of the intestinal tract are not favorable to the growth and development of this bacillus, and they die rapidly in a sewage contaminated water, particularly when they come in contact with a large number of saprophytic bacteria. Though they remain virile and live some time in sterile water, they do not live longer than perhaps a few days or a week in contaminated waters.

If the infected material was thrown directly into the stream, and examination was made immediately, there might be a chance of finding this bacillus, though greatly diluted. If, however, the excrementitious matter was thrown upon the ground or in a cess pool near by the source of supply, it would take some time to find its way into the water, and the numbers may have been greatly diminished by natural filtration, even to the extent of complete removal under advantageous conditions of soil and other influences. The chances of finding and isolating this bacillus are further lessened by the time that would elapse between the initial infection and the onset of the symptoms, and the bacillus may have disappeared entirely from the water.

In view of these facts, and the great dilution which the bacillus suffers, it is doubtful whether the bacillus typhoid has ever been isolated from a river water, though several investigators have claimed to have found it. Furthermore, the practical difficulties in the technique of its separation, and the time required for its differentiation, render this test valueless for routine water examinations.

On the other hand, the bacillus coli is present in large quantities in the intestines of man and animals and in fæces, and its presence indicates sewage contamination and renders the water objectional since it may give rise to other intestinal disturbances than typhoid fever,

or diminish the vitality of the cells and increase the susceptibility to disease. Moreover, its presence gives rise to doubt as to the probability of sewage access, and unless its occurrence can be traced to a harmless source and proved to be accidental or temporary, the water is unfit and unsafe to drink. If the source be from other than human intestines, its significance is less important and is to be determined then by the amount of contamination and accompanying organic matter or sewage.

It is claimed by some that the bacillus coli is also present in the intestines of fish, and is to be found in their fæces. Whether this be a fact or not, has not been definitely ascertained, and, if true, it is probable that the bacillus is derived from the ingestion of the fæces of animals. This source at all events would not be an important one, and taken by itself could not account for the organic matter and products of decomposition which usually characterize contaminated supplies.

The objection to the test is that it is qualitative and not quantitative. However, it can be made approximately quantitative by noting the amount of water required to exhibit its presence. Some laboratories have adopted the practice of condemning all waters which yield a positive test from 1 CC. of the sample. This, though perhaps a good rule, is not an infallible one, as waters which are very highly contaminated would fail to give a positive test with 1 CC. on account of the number of bacteria interfering with development and normal reactions in test media. A lesser quantity would fail to react in slightly contaminated waters.

It must also be borne in mind that the absence of the bacillus coli is not conclusive evidence of the purity of the water, for leaving aside the presence of objectional quantities of mineral and organic matter, it may have died out or its development been inhibited by toxins or other unfavorable conditions. The purity of the water would then be decided by other tests, the significance of which I shall not mention as it is my intention to confine this discussion to the significance of the bacillus coli as a test for the sanitary purity of water supplied.

In deep wells, which are usually sterile, this bacillus does not occur. When found to be present in such waters, the contamination is accidental and has probably been due to unsterilized containers or carelessness in sampling. In some cases the contamination may be due to surface washings which have found entrance to the pipes or water conduits.

In surface waters, shallow wells, reservoirs and cisterns the bacillus coli has a much wider significance, and its presence is indicative of sewage contamination. The nature or cause of the contamination should be investigated, and if the source cannot be removed, or the contamination prevented, the water is unsafe and unfit, and the supply should be condemned. On the other hand, the absence is not conclusive proof of the purity of the supply, since the contamination may be on the surface or in the soil and may later gain access. It is also possible that the infection may have died out, and that subsequent rains may reinfect if sewage has entrance, so it matters little in the judgment of fitness whether the water is acutely contaminated or whether it is subject to contamination.

If present, this bacillus is the best presumptive sign of danger, though other tests may indicate the water to be wholesome. Its absence is the best presumptive indication of safety, though a sanitary survey or other tests may show the supply to be dangerous. Dilution is also an important factor, since all surface waters may be regarded as diluted sewage. The number of bacteria or degree of contamination must also be considered.

In the case of cistern waters, particularly in cities, which are known to be subject to more or less contamination, depending upon the amount of care that

is exercised in the collection of the supply, this test, with few exceptions, furnishes a positive indication of fitness or unfitness, and is in general sufficient for the determination of the wholesomeness of the water. With this class of waters a positive or negative test is least apt to guide us wrong.

It is claimed by some, that since the standard may so frequently mislead, it is of little value. If we accept this view, we must discredit all laboratory findings in diagnosis, since none are infallible, and the development of atypical symptoms should cause us to disregard the normal symptoms of disease.

We are frequently asked for a simple and rapid test by means of which we can determine the sanitary purity of a water. There is no such test, and the nearest approach to it is the information furnished by the presence or absence of the bacillus coli.

In the formation of a safe and reasonable judgment regarding the wholesomeness of a water, we must take into consideration not only the chemical and bacterial findings, but also the history, source, environments, character of the soil and earth or rock strata, and the nearest sources of contamination; together with the normal content of the water, if such data is available. Without such formation the analyses are of little value. In many cases a sanitary survey will condemn or justify the use of a supply, whatever analytical findings to the contrary.

The all important questions concerning a water are:

1. Has the water been subject to contamination from human excreta? and,

2. If such contamination exists, has the water been subjected to treatment which would ensure the removal of such contamination or prevent a reinfection.

To the first of these questions a bacteriological examination cannot give a conclusive answer, as there are no organisms, as yet discovered, which are absolutely characteristic of human excreta.

To the second we also have a qualified answer. If there are no bacillus coli we have evidence that there will be no typhoid, and that the purification has been sufficient. If coli are present in small quantities they do not necessarily indicate that there will be typhoid, and we have to rely on the relative bacterial counts as an indication of the efficiency of treatment, and the chemical ingredients, which yield a more constant factor than the presence or absence of living organisms.

From the above, it is evident that a sanitary water analysis is not an analysis in the ordinary sense of the term, but a series of tests and observations. The interpretation of results is of great importance, and unless the observer has a wide experience and is thoroughly familiar with the various conditions which affect the quality of different kinds of waters, the analytical and other findings are useless and may lead to serious mistakes.

In cases of doubt, it is good practice to condemn. Unless a water shows every reasonable evidence of purity it should be assumed to be contaminated and its use discontinued or cautiously regulated until it can show a clean bill of health.

Functions of the Ductless Glands.

M. J. D. Dantzler, M. D., Elloree, S. C.

As recently as thirty years ago scarcely anything was known concerning the functions of the ductless glands. Physiologists did little but describe their anatomical construction. Austin Flint enumerated in the class of ductless glands the spleen, the suprarenal capsules, the thyroid gland, the thymus and "sometimes

the pituitary body and the pineal gland." These glands were said to have certain anatomical points in common with each other; but he acknowledged the general ignorance of their functions among physiologists at that time. They knew that these glands had no excretory ducts; that their peculiar secretions were not excreted, but passed into the blood current; they had innumerable communicating cellular interspaces between the trabeculæ which proceeded inwardly from the fibrous membrane covering the glands; they had closed vesicles attached to the walls of the vessels or at their termini; the function of the ductless gland was to produce an internal secretion which was carried away in the blood current and, as already said, was not excreted. Pathologists knew that malarial and typhoid fevers caused enlargement of the spleen; but made no attempt to explain why or how it was. More recent researches and experiments have added to our knowledge of their functions. Since that time the liver has been classed with the ductless glands, as it performs two functions, namely, that of excreting bile which passes into the intestines through the bile duct, and that of converting cane sugar into glucose which is thrown back into the blood stream of the vena cava through the hepatic veins. It is a glycogenic as well as a biliary organ. The whole period of human life is a continual battle between the constant and ceaseless attacks of innumerable bacteria, microbes and various toxins produced within the system or introduced from without, on the one hand, and on the other hand, the normal internal secretions of the ductless glands. Sajou's "Auto-protective mechanism of the body" against disease consists of the thyroid, the pituitary and the adrenal glands. The internal secretions of the thyroid glands contain certain antibodies called by Wright, the opsonins, of which iodine is an element, and which is said to destroy poisons which result from the decomposition of proteid substances in meat. The opsonins secreted by the thyroid gland, by acting on the bacteria and micro-organisms, render them more easily digestible by the leucocytes, which envelop or swallow them, and, with the aid of the alexins found in the leucocytes, eat and destroy them. This process of arrest and destruction of bacteria and hematozoa is called phagocytosis. According to modern research the leucocytes are the product of the spleen and lymph glands. It has been proven experimentally that after the extirpation of the thyroid glands convulsions follow in a few days and death results; but if the dog experimented on is prevented from eating meat and fed on milk it lives a long time. Iodine, an element in the secretion of the thyroid gland, is also found in milk.

Charin also says that the thyroid secretion protects the system against the attacks of bacilli. The thyroid protects us not only against the poisons in meat, but poisons in general. The thyroid seems to have some controlling influence over the liver, the kidneys and the skin. Lorand says, "Iodine is the main element in the thyroid secretion." Hence iodine preparations are useful in infectious diseases, especially in syphilitic infections where the thyroid has undergone degenerative changes on account of its hyperactivity in its continuous and constant efforts to destroy the germs of the infection. When iodine is administered it acts through the thyroid glands. Fever is said to be caused by a high state of activity of the thyroid gland in its effort to destroy the bacteria and toxins in the circulating blood by means of the opsonin secreted by the gland. In fever there is increased oxidation. When excessive activity of the gland is exhausted, as in fever, leaving little or no colloid substance in the follicles of the thyroid gland, the fever subsides; this is followed by perspiration, diuresis and sometimes diarrhœa.

It is said that all infectious toxic products act upon the thyroid gland. It may be that the drugs which antagonize fever act upon the thyroid and increase its activity to resist infection. If so, antipyretic remedies should not be given in doses so large as to exhaust the activity of the thyroid gland. I have noticed in typhoid infection that very small doses of antipyretics act much better and are safer for the patient than medium or large doses. Antipyretics should be given in infectious diseases only as an aid to the natural functions of the thyroid gland in resisting poison. Lorand says, "The thyroid and adrenals are in close relationship: the function of the adrenal gland is to raise blood pressure." The adrenals, by means of the adrenalin secreted, destroy or neutralize bacterial or other toxins or animal poisons introduced into the system. It is claimed that the continued use of alcohol, tobacco, tea and other poisons in large quantity excite hyperactivity in the adrenal glands and thereby cause atheroma and arteriosclerosis. According to Lorand, the adrenal and thyroid glands are antagonistic in their functions; "hyperactivity in the adrenals causing a rise in the blood pressure," while the secretion of the thyroid decreases blood pressure.

"The better the condition of the thyroid the greater will be the activity of those organs that are under its direct command (e. g., the kidneys, the liver, the skin and the intestines), and by the increased activity of the main emunctories of the body poisonous products will be eliminated by means of a greater flow of the urine, an abundant perspiration and a thorough purging."

The thyroid gland seems to govern the functions of the other ductless glands. When it is degenerated the want of its controlling influence affects adversely the proper functions of the remaining ductless glands.

In the Cretin, whose thyroid is degenerated so that there is a large amount of fibrous tissue in the place of the secreting follicles, giving rise to goiter, there is retarded function of most of the organs and diminished metabolism; so that he never attains full physical development. The sexual organs of the Cretin being under control of the thyroid are said to be undeveloped, and he is mentally dull and idiotic. In cretinism there is early ossification of the bones and premature old age. Degeneration of the thyroid is unfavorable to longevity, and in the young or middle-aged give rise to the symptoms of premature senility.

The pituitary body and other ductless glands also contribute to the protection of the system against infectious and toxin poisons. The pituitary gland is said to be antagonistic in its functions to the thyroid gland. In a healthy condition it increases blood pressure and diminishes the frequency of the pulse; but in a pathological condition it lowers blood pressure and causes the pulse to beat more rapidly, giving rise to the symptom of fever, which is the result of war waged within the body between the bacteria or toxins and the secretions of the ductless glands. The secretions of the adrenal glands are supposed to neutralize or destroy toxins which result from muscular action, and to assist in defending the system against poisons, especially phosphorous and urinary poisons.

In contemplating the role which each of the ductless glands plays in protecting the system against the invasion of innumerable hosts of microbes we are struck with the harmony of the combined agencies of their different internal secretions as aimed at the one final object of the human system, namely, auto-protection. Make an incision through the skin and subcutaneous tissues. The peripheral nerves send the message to the brain and pain is felt. Asepticize the wound and, under antiseptic precautions, stitch the sides together in close apposition and

leave it under antiseptic dressing. It heals by first intention, that is, without fever and suppuration. Suppose we leave the same wound open. The pain caused by the edge of the instrument is prolonged by the immediate attack of myriads of bacteria and microbes irritating the peripheral ends of the nerves. Under the agency of the pituitary and adrenal glands blood pressure is increased and we have congestion, swelling and heat added to the pain. The whole system is now alarmed, as it were. The spleen rapidly secretes and turns out its battalions of leucocytes armed with alexins. The thyroid as rapidly increases its opsonins to cripple and prepare the microbes for capture and digestion; they are all rushed to the point of attack and the battle begins. The leucocytes by proliferations from their cells envelop or swallow the microbes and bacteria already prepared for destruction by the opsonins; the fight goes on until the wound is filled with phagocytes. The result is called suppuration. If the ductless glands are not exhausted in their efforts to destroy the invading bacteria healthy action takes place in the wound; but if they become over-exhausted phagolysis occurs and destruction of tissue continues. This is given as an illustration of the theory concerning the harmonious action of the ductless glands; the ideas and facts having been gathered from the opinions of authors who have been interested and engaged in experimental researches concerning their functions. Our knowledge of the functions of these glands is still crude and limited; but without doubt future investigations will soon add much to our present knowledge on the same line.

By way of digression, I will say that not more than a generation ago most of the ductless glands were considered as almost useless organs in the animal economy. At present the appendix vermifermis, although not classed with these glands, is generally considered to be useless to the animal economy; but who knows but that future investigations by physiologists and savants may culminate in proof that the function of the appendix is to secrete some element which is necessary to the perfectly healthy actions of all the organs of the human system. I believe the day is not very remote in the future when the discovery of the true function of the appendix vermifermis will be announced to the medical world.

A TISSUE NUTRIENT FOR THE SUMMER.

Ofttimes during the summer the physician is put to his very wit's end to find a tissue nutrient for his tubercular and debilitated patients; one that will agree with them during the hottest weather. Cord. Ext. Ol. Morrhuae Comp. (Hagee) by reason of its palatability and the ease with which it is assimilated, is the ideal agent of this character, not alone in the summer but at all other seasons.

Review of the Meeting of the American Medical Association.

EDGAR A. HINES, Secretary South Carolina Medical Association.

Doubtless a brief review of the meeting of the American Medical Association on this the closing day will interest the members of the State Association. You will recall that the Santa Fe Railroad ran six or seven special trains out of Chicago for the exclusive use of the A. M. A. These trains were to proceed to the Grand Canyon of Arizona and be parked for the night, thus giving the travelers twenty-eight hours in which to visit this wonderful chasm, two hundred miles long, a mile

deep, and thirteen miles across. This feature alone was well worth the journey. At this place the A. M. A. really had the opportunity in a most delightful manner to become acquainted with each other at the magnificent hotel right on the rim of the canyon.

The itinerary being resumed there continued to unfold before our eyes the vast stretches of prairies of Arizona and New Mexico, inhabited by prairie dogs, Indians and cowboys. The adobe hut is the type of dwelling, and yet there are a number of prosperous cities, made so by irrigation and the glorious climate. The trains made frequent stops to permit sight-seeing. The crossing of the Colorado is made over a bridge, said to contain the longest single span in the world, and we are at once in the far-famed State of California, a State which probably every intelligent person in the land hopes some day to visit, and should visit. We were met at the trains by the young doctors of the city of Los Angeles and in short order were dispatched to our hotels. The chairman of the Hotels Committee was particularly kind to me—Dr. L. M. Wills. He said he was a classmate of Dr. Kollock, of Charleston. Owing to two accidents to our train, the tender of one engine jumped the track and a Pullman caught on fire, I was not able to be present at the opening of the House of Delegates. I was appointed a member of the Credentials Committee and served throughout the session. The registration of members was about two thousand. There was nearly a similar number of the wives and daughters of the physicians; the president, Dr. John B. Murphy, setting the example by bringing his wife and three daughters. There is every reason why the doctor should invite his wife, especially, to accompany him on such a trip as this, for there is no one, I believe, who deserves it more or who would profit by and enjoy it more.

The most important measure enacted by the House of Delegates was to refer back to the State Associations the question of uniform regulation of membership. The question will come before us for consideration as to a member of the county society by that fact, being also a member of the American Medical Association. This would at once bring about more than 50 per cent. increase of membership for the A. M. A., and would doubtless still further influence favorably its marvelous growth and power. There appears to be much in favor of finally adopting such a plan. The details, however, will be presented by our delegation at the proper time.

I had the high honor of presiding over the "Association of Secretaries and Editors of State Medical Journals," and acting as toastmaster at one of the most beautiful banquets I ever attended. The topic under discussion was the question just alluded to, "Uniform Regulation of Membership." This organization is now highly successful in its aims and purposes, and I see no reason why we should not attempt a similar idea at home, viz.: have our secretaries meeting with a banquet on the evening of the day before the annual session, or at some other suitable time. I recall that Dr. Walter Cheyne, my predecessor, was elected the first president of the above organization, and he will be delighted to know of its great success and influence. The scientific meetings were, so far as I can learn, up to the standard. A member of the House has very little time for anything else. The Section on Preventive Medicine and Public Health had a fortunate hall adjoining the large exhibit hall and is fast becoming one of the most important sections of the A. M. A. I dropped in to hear a valuable contribution on the subject of Medical Inspection of Schools in California. This State is a leader in its care of the health of its children in the schools and colleges, having recently enacted excellent laws to that effect.

The Louisiana Health Train created much favorable comment. It was sent here for exhibition, and I think was instituted and run similar to the Clemson and Winthrop trains now touring South Carolina. If our State Board of Health could in time duplicate it, I believe much valuable knowledge on sanitation where it is most needed would be disseminated. It will be gratifying to all who have been interested in the conservation of human life from the pediatric standpoint to know that Dr. Abraham Jacobi, of New York, was elected president of the American Medical Association. It is probably true that no American physician is so well known throughout the world as Dr. Jacobi for his contributions to internal medicine, and especially pediatric literature. Dr. Alexander Craig, who visited our Association at Charleston and made such a favorable impression by his pleasant manner and unobtrusive suggestions to our secretaries, was elected secretary of the American Medical Association—Dr. Simons resigning all claims to this office in order that he might devote his whole time to the Journal. Dr. Craig is from Philadelphia, and I think married a Southern lady.

The entertainment of the Association has, I believe, surpassed anything ever undertaken for organized medicine in the United States. In this magic land of sunshine, flowers, fruits, wealth, big-hearted men, and beautiful women, all combined to give us the time of our lives. Receptions at palatial hotels and houses, on the shores of the Pacific and at the foot of the mountains, it appears to me, left nothing to be desired. The South was fairly well represented. I should have added that Dr. Floyd McRae, of Atlanta, was elected one of the vice presidents. From South Carolina were Dr. J. L. Dawson, of Charleston; Dr. J. E. Allgood and wife, of Liberty; myself and daughter, Miss Nancy, the latter being my stenographer in the secretaries' office at home. Dr. Mazyck P. Ravenel and wife came also, and we are proud to claim Dr. Ravenel for South Carolina. On the way, he was elected president of the Association for the Study and Prevention of Tuberculosis. On my return I expect to stop in Chicago and visit the Association headquarters and get first hand knowledge of the workings of the organization department now under Dr. Craig's management. Be ready for business at Seneca to look after my duties July 20th.

EDITORIALS.

Dr. Wiley.

With Apologies to Rudyard Kipling.

(To be sung to the melancholy strains of "Danny Deever.")

"What makes the potted ham so green?" said Files-on-Parade.
"It's feelin' fresher than it is," the color sergeant said.
"What makes the ranks so white, so white?" said Files-on-Parade.
"They're dreadin' what they've got to eat," the color sergeant said.

"For they're bouncin' Doctor Wiley, you can hear the microbes cheer.
And the germs is all a-singin' 'Wiley's goin' away from here,
And we're comin' back far stronger than we've been for many a year,
For they're bouncin' Doctor Wiley in the mornin'."

"What makes the canned goods work so 'ard?" said Files-on-Parade.
"They're fixin' for their jubilee," the color sergeant said.
"What's made that front-rank man fall down?" said Files-on-Parade.

"He's eat cold-storage sassidges," the color sergeant said.
"They are bouncin' Doctor Wiley, and those sassidges of old
Are swarmin' from their prisons where they've lingered in the cold,
And they've brought their ptomaines with 'em in a manner free and bold,
For they're bouncin' Doctor Wiley in the mornin'."

The verses quoted above from Harper's Weekly expressed what seemed two or three weeks ago to be the general feeling relative to the tremendous pother about Dr. Wiley. Whether there was any serious attempt to oust the doctor from his present position or whether a mere reprimand for exceeding technically his proper duties will probably never be known. In the minds of a large number of people the impression will stay fixed that the various interests injured by his firm stand are responsible for the attack on the doctor, and that the tremendous public clamor raised by the whole country against the move was the chief factor in softening the blow which was about to fall. Certainly many things seem to point to the correctness of this view, but, on the other hand, we must realize that possibly no more was intended at the beginning and that all the noise and confusion was merely agitated by those who aim to make political capital of any act. In all fairness we must look at the possibilities on both sides and not condemn hastily.

The patent medicine manufacturers, the packers and the fake cure specialists undoubtedly are anxious to have Dr. Wiley's political head on a salver, and will continue to work to discredit him in every way, for they have been hit by the doughty doctor in their most sensitive spot—their bank roll.

People who spend millions of dollars in advertising worthless goods will just as quickly spend a like amount to oust a man who is rendering all this expenditure for advertising useless. Consequently, we can expect a continuous series of attacks from one point after another. Such people would never hesitate at the most disreputable sort of trick to gain their ends, for any one who would trade in human misery (as do the cancer fakes) would certainly never let any ethical standard get in their way.

Now, as to the power these people might wield with the powers that be. We can only surmise what that power is. Misrepresentations they may have used, money they probably spend lavishly to bring about their ends. Nor need they have spent their money directly to buy the powers—as we believe those in authority to be above such tricks—but witnesses may be suborned and perjurers can be bought to put false tales in circulation to endeavor to influence the men in charge to view unfavorably any little error made by him whom they desire removed. They have made their attack and have felt the strength of the doctor's position, and next time we may expect some more dastardly attempt.

We are glad to see that the governmental powers have had the good sense not to discredit Dr. Wiley, and only wish that they had made their position even stronger by giving a more unqualified endorsement of Dr. Wiley's acts. Dr. Wiley has labored hard for the good of the masses and his reward should be praise, not opprobrium.

Changes at the Medical College of South Carolina.

It is with pleasure that we note in the latest announcement of the Medical College of South Carolina that several advantageous changes have been made in the personnel and arrangement of the faculty. By this we do not mean to suggest that the former incumbents of the chairs now refilled were in any way incompetent, for we do not wish to give any such impression, and we realize that the vacancy created by the death of Dr. Simons is most unfortunate. But we do

mean to say that the arrangement of certain of the chairs was cumbersome and that the present arrangement is better.

The chairs of didactic surgery, clinical surgery, and of gynecology and abdominal surgery, were formerly filled by three men and have now been merged into two. The chairs of physiology and of eye, ear, nose and throat were formerly merged into one and are now divorced, as is proper. The chair of physiology has been placed under the charge of Prof. Paul M. Rea, a most able student not only of physiology and of embryology, but also of zoology. Under Prof. Rea's charge is the Charleston Museum, which is one of the most complete museums of natural history in the South, and which will be of inestimable advantage in the study of both comparative anatomy, embryology and zoology. Professor Rea has already an established reputation as a teacher and will prove a valuable addition to the faculty of the college.

Several minor changes have been made in the staff of adjunct teachers, and several additions have been made in the curriculum. The course has been lengthened to allow time for the extra subjects, and the students in future will be afforded the advantages of the highest grade of colleges. The graduates of the Medical College of the State of South Carolina have always stood high when in competition with the graduates of other colleges, and now should take additional pride in the advancement of their Alma Mater.

Quite lately, too, the college has acquired a most valuable piece of property in close proximity to the Roper Hospital in Charleston, and the trustees hope ere long to erect a fitting building on this plot of ground. Meanwhile the old college building is being fitted out to carry on the highest grade of medical teaching. We wish it all success.

Personal.

Mr. Boyden Nims, chemist of Columbia, S. C., has gone to Chicago and will probably be gone until the middle of September, during which time his laboratory will be closed.

Society Reports.

Abbeville—
Anderson—No report, 4th month.
Aiken—No report, 3d month.
Bamberg—No report, 5th month.
Barnwell—No report, 15th month.
Beaufort—No report, 12th month.
Charleston—No report.
Cherokee—No report, 8th month.
Chester—No report, 5th month.
Clarendon—No report, 5th month.
Columbia—No report, 2d month.
Colleton—No report, 11th month.
Darlington—No report, 12th month.
Dorchester—No report, 12th month.
Edgefield—No report, 12th month.
Fairfield—No report, 12th month.
Florence—No report, 12th month.
Georgetown—No report, 7th month.
Greenville—No report, 5th month.
Greenwood—No report, 4th month.
Hampton—No report, 12th month.
Horry—No report, 12th month.
Kershaw—No report, 12th month.
Laurens—
Lee—No report, 12th month.
Lexington—No report, 8th month.
Marion—No report, 5th month.
Newberry—No report, 8th month.
Oconee—No report, 7th month.
Orangeburg-Calhoun—
Pickens—No report, 10th month.
Saluda—No report, 4th month.
Spartanburg—
Sumter—No report.
Union—
Williamsburg—No report, 6th month.
York—No report, 8th month.

Abbeville County.

The Abbeville County Medical Society held its regular monthly meeting in Dr. C. C. Gambrell's office today. A larger number of phyiscians from a distance were present on account of the healthy condition of the county, and several new automobiles. We are truly glad that some of our men on the border of the county have at last discarded the horse, and substituted the auto, for with this machanico mediacal enervator we are sure to get in closer touch with each other, and the result will be a better society, a better doctor and a better community.

During the past month Councilor Neuffer visited Laurens County Medical Society and reports everything in a flourishing condition over there. Dr. R. E. Hughes, of Laurens, was in Abbeville recently on professional business.

Dr. M. W. Cheatham, of this place, and a recent graduate of Charleston, has located at McCormick.

Dr. B. M. Chipley, of Greenwood county, has moved to Calhoun Falls, Abbeville county.

C. C. Gambrell,
July 7, 1911. Secretary.

Laurens County.

Laurens County Medical Society met on June 26, 1911, in offices of Drs. Teague and Ferguson with following members present: Drs. Bryson, Miller, Fennell, Christopher, Teague, Dial, Rogers, Hughes, Pinson and Bailey, and Taylor, S. J., as a visitor, as well as the District Councilor, Dr. G. A. Neuffer, of Abbeville, on his annual inspection.

Minutes of the last meeting were read and approved without corrections.

Under report of Special Committees, Dr. Christopher reported for Committee on Hospital Appropriation, that they had conferred with Misses Irby and McFarland, and recommended that the society appropriate the proceeds of the bank stock and retain the stock. On motion, treasurer was instructed to pay over the dividends as they accrue, and the committee was discharged.

The regular essayists for this meeting being absent, this time was turned over to Dr. W. H. Dial, who talked interestingly of a recent visit to the Mayo Clinic in Rochester, Minn.

Following this was a discussion of pellagra, in which Dr. Neuffer joined. Under unfinished business the secretary reported having paid bills for photographs and materials used in the investigation of what proved to be a rare disease in this section, viz., blastomycosis. A history of this case, together with bacteriologic and gross pathologic specimens, were taken some weeks since by Dr. Knox Simpson and sent to a competent pathologist and received a prompt report of blastomycosis.

Following this report, Dr. G. A. Neuffer entertained the society with a characteristic talk of great interest. The doctor spoke fluently and without notes; his subject being the importance of organization and the need of a better fraternal spirit among doctors.

On motion, it was decided to invite Dr. E. A. Hines, of Seneca, to meet with us in July, fourth Monday. Drs. Fennell and Ferguson were appointed to read papers at the next meeting, after which the society adjourned to meet the fourth Monday in July at the usual place.

T. L. W. Bailey, President.
Jesse H. Teague, Secretary.
Laurens, S. C., June 26, 1911.

Spartanburg County.

On July 28th the Spartanburg County Medical Society held its regular monthly meeting. This was one of the most profitable meetings of the year; there were no papers read, but all of the members present entered into a round table discussion, which was most interesting. Several clinical cases were reported. Dr.

Jefferies reported a case of Stokes-Adams syndrome; Dr. Gantt a case of supernumerary tongue in a small boy; Dr. Fike a case of delayed menstruation in a girl of nineteen, successfully treated with thyroid extract after the usual hematics had failed; Dr. Geo. Thompson reported a case of filaria successfully treated. The following members of the society attended the formal opening of the Gaffney City Hospital: Drs. Black, Kirkpatrick, Sexton, Tate and Gantt. The visiting physicians were most delightfully entertained with an automobile ride over the city and dinner at the hotel, and they inspected a beautiful little hospital with all the most approved modern equipment and saw some interesting operations by Dr. Frank Martin, of Baltimore.

L. ROSA H. GANTT,
Secretary.

Spartanburg, S. C., August 3, 1911

SECOND DISTRICT MEDICAL ASSOCIATION

The Second District Medical Association met at St. Matthews on July 18. There were thirty-four present.

Dr. Kollock, of Charleston, gave a most interesting talk on opthalmia neonotorum. He also performed an operation on an eye, and held a clinic on the eye, ear, nose and throat. Dr. Knowlson read a paper which was illustrated by drawings on delivery by incising the vagina. This he proved to be preferable to the old Cæsarian section.

Dr. Dantzler, of Elloree, read a paper on "The Ductless Glands."

There were a number of clinical cases. After dinner the Association adjourned to meet at Orangeburg in the winter.

The following officers were elected for the year: Dr. T. H. Dreher, president; Dr. J. S. Matthews, vice president; Dr. Sophia Brunson, secretary; executive committee, Dr. D. D. Salley, Dr. J. J. Kleckley, Dr. R. H. Timmerman and Dr. J. K. Fairey.

July 15, 1911.

UNION COUNTY MEDICAL SOCIETY.

At the regular meeting of the Union County Medical Society July 3d the following committee was appointed to draft resolutions of respect for the late Dr. Crown Torrence, and in compliance therewith do report the following:

That every member of the Union County Medical Society is deeply griefstricken at the death of our late confrere and member of our society.

We not only feel the loss of a high-toned gentleman and able physician, but we remember well that he was one of the active organizers of our society, and he was ever ready to do his duty to aid or to advance the interest of said society. He was of pleasing appearance, elegant manners, deeply read, and well versed in all branches of medicine. He was ethical to the highest degree, and was ever kind and considerate to his brother practitioners.

It is true he left us about eighteen months since to prepare himself in Chicago for special work, and afterwards located in Charleston about a year ago, but his memory as a Union county doctor is pleasant and refreshing.

To know Dr. Torrence was to like him and to admire him. His death just in the prime of life is a distinct loss to the medical profession of South Carolina, as well as to his many friends and patients.

This committee recommends that these resolutions be inscribed upon the minutes of the Union County Medical Society, and further, that a copy be sent to Mrs. Torrence, and that they be printed in the Journal of the South Carolina Medical Society and in our county papers.

J. G. GOING,
M. W. CULP,
R. R. BERRY,
Committee.

A PROMISING AGENT IN HAY FEVER.

Dr. J. E. Alberts, of The Hague, Holland, undoubtedly performed an important service when he directed the attention of the medical profession

to his new combination for the treatment of vasomotor rhinitis. We refer to the combination now known as Anesthone Cream, which has heretofore been briefly noticed in these pages, and which contains one part of adrenalin chloride to twenty thousand (1:20,000), and ten per cent. of para-amido-ethyl-benzoate, and is marketed in the form of an ointment.

Applied to the mucous mebrane of the nares, Anesthone Cream has a persistent anesthetic effect which affords marked relief in hay fever. As para-amido-ethyl-benzoate is only slightly soluble in aqueous fluids, its anesthetic action is prolonged. It does not have the poisonous effect of cocaine upon the protoplasmic element of cells, nor does it depress the heart. Furthermore, there is no tendency to "habit" acquirement.

The preparation came into considerable use during the hay fever season of last year, the consensus of opinion being that it affords a very practical and satisfactory means of relief from symptoms due to hyperesthesia of the nasal mucous membrane, and without ill effects—an important consideration. The fact that the relief continues for several hours in some cases is worth remembering, in view of the fleeting effect of most local anesthetics.

Anesthone Cream is supplied in a collapsible tube with an elongated nozzle to facilitate its application to the nasal mucosa, a portion of the cream about the size of a pea being applied three or four times a day, as may be necessary. It is marketed by Parke, Davis & Co. Whether, as an agent in the treatment of hay fever, it will attain the vogue reached by some other preparations put out by the same company—notably Adrenalin Chloride Solution and Adrenalin Inhalant, which have been before the medical profession for a number of years and thus have the advantage which pertains to priority—remains to be seen At any rate, it is worthy of a fair chance, which, of course, in the long run it is certain to get.

Current Medical Literature.

A Warning Concerning the Use of Salvarsan.

(By W. C. Slusher, M. D., Bluefield, W. Va., and E. B. Burchell, M. D., New York, in New York Medical Journal, July 15, 1911.)

After hearing much said concerning the probable germicidal powers of salvarsan, it occurred to us that some experiments tending to settle this moot question would be interesting, and the following experiments were carried out in the Eno laboratory of the New York Eye and Ear Infirmary:

"Four cubic centimetres of a one per cent. solution of salvarsan in sterile water were added to a pure culture of staphylococci of twenty-four hours' growth on plain agar, and then after intervals of five, ten, twenty and fifty minutes, a loopful of this mixture of staphylococci in salvarsan solution was transferred to slants of plain agar, and incubated for twenty-four hours at 37 degrees C. On the tubes exposed for five, ten and twenty minutes, the colonies were so numerous they could not be counted. On one exposed fifty minutes forty-eight colonies were found. Then a twenty-four hour pure culture or staphylococci was similarly treated with 4 c. c. salvarsan solution prepared for injection by the alkaline (Lesser's) method, and after a repetition of the procedure, it was found that all four slants contained as many colonies they could not be counted. On a control tube, inoculated at the same time without being subjected to alkaline solution of salvarsan, the growth was not so luxuriant, which proved to us that the alkaline solution of salvarsan favored, rather than retarded, the growth of bacteria. At the same time a pure culture of staphylococci was subjected to iodipin (ten per cent. iodine in oil of sesame, Merck), in which case the growth on all four tubes of agar was as profuse, if not more so, than the tubes submitted to the alkaline solution of salvarsan."

It is a fact that physicians often go to their druggist to have salvarsan prepared for administration, or prepare it themselves in the office and administer with little or no regard for asepsis, believing that salvarsan, or the medium in which it is administered, is germicidal. Our experience in administration of salvarsan, after thorough sterilization of everything coming in contact with the patient, and the result of the experiment leads us to the belief that the cases of necrosis and infection are due to carelessness or disregard of asepsis.

Right Sided Abdominal Pain in Women.

(By John Bland-Sutton, in New York Medical Journal, July 15, 1911.)

Bland-Sutton says that for several years it has been his custom in dealing with persistent right sided abdominal pain, in which it is impossible, after careful examination, to decide which organ is at fault, and in which the patient's condition is such as to justify operative interference to carry out the following plan: After the usual preparations he makes a fairly free incision in the line of the right linea semilunaris and systematically examines the organs on the right side of the adbomen. This incision allows the surgeon to examine the pelvic organs, including the ureters, the cæcum, vermiform appendix, kidney, gallbladder and ducts, the pancreas, duodenum, pylorus and liver. It also has the advantage of permitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned, and it is by no means uncommon to find two diseased conditions coexisting, and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and in a few, unexpected pathological conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. Years ago he came to the conclusion that no young women should be labeled hysterical simply because our crude methods of clinical investigation failed to indicate the cause of the painful sensations.

Latest Statistics on Cancer in the United States and in New York.

(By Walter B. Chase, M. D., Brooklyn, New York, in New York State Journal of Medicine, July, 1911.)

The question of the prevalence of cancer in the United States and to those who are residents of New York of its prevalence here, are matters of the deepest interest. The statistics of the "Bureau of the Census" for 1910, from which the following information is derived (and estimates made), appear in Bulletin 108. The actual and estimated entire mortality in the United States in 1909 was about 1,464,000, exclusive of still births. Cancer was sixth in point of frequency of all causes of death. The following is the order: 1st, tuberculosis, 163,000; 2d, heart disease, 132,000; 3d, diarrhœa and enteritis, 105,000; 4th, pneumonia (all kinds), 98,000; 5th, nephritis, 97,000; 6th, cancer, 75,000. A recent writer, in comparing the mortality statistics of cancer in some European countries with their known population, has attempted by similar reasoning to determine its presence in the United States. His conclusions are wide of the mark. His claim is that there are 80,000 cases of cancer at the present time in the United States with an annual mortality of 40,000. (See p. 74, U. S. Bulletin 108.) It appears in round numbers according to frequency of occurrence there were the following deaths: 1st, Stomach and liver, 30,000; 2d, female genital organs,

11,000; 3d, intestines, 9,000; 4th, breast, 7,000; 5th, skin, 3,000; 6th, mouth, 2,800, and other unspecified organs, 11,000.

It will be noticed the mortality for cancer of the female genital organs was 11,000 and that of the breast 7,000. Presumably those of the breast were in women. If this is true then cancer of the reproductive organs of the woman amount to 18,000—more than one-fourth of all deaths from cancer.

Anchoring the Caput Coli.

(By Russell S. Fowler, M. D., Brooklyn, New York, in New York State Journal of Medicine, July, 1911.)

The condition of prolapsus ceci is extremely common. In the majority of cases it is not accompanied by symptoms, but in a certain proportion of cases symptoms similar to chronic appendicitis with associated constipation are present.

In such cases in addition to appendectomy anchoring of the caput coli in its normal position is indicated. To accomplish this easily and with a fair degree of certainty the following procedure has been devised and carried out in three cases. Undoubtedly this or a similar procedure, from its very simplicity, has suggested itself to other operators, though I have not found the procedure described. Wilms (*Zentralblatt für Chirurgie*, 1908, No. 37) devised an ingenious method of suspension of the caput which, however, is open to the objection that it fixes the lowermost part of the caput which normally nature has left free.

Briefly the steps of the procedure are as follows: Following appendectomy the caput coli is laid on a laparotomy sponge to the median side of the incision. This puts the meso-colon on the stretch and allows one to identify the reflection of the parietal peritoneum on to the meso-colon. This reflection is nicked with the scissors and the incision extended downward parallel with the cecum as far as the brim of the true pelvis and upward for four or five inches. The peritoneum is stripped away from the meso-colon and from the postero-lateral wall of the false pelvis. Clamps are placed on the edge of this peritoneal flap to mark where the sutures are to be placed. There is a large raw surface left inside the pocket of the peritoneum thus formed in the right iliac fossa at the normal site of the caput coli. Into this pocket is placed the caput and there secured by catgut, sewing the edge of the peritoneal flap to the middle white line of the caput. The lowest suture is placed about one inch above the site of the base of the appendix so as to leave the lower portion of the caput free just above the brim of the true pelvis. Two other sutures are placed above at intervals of one inch. Thus the caput is securely fastened into a large pocket, the lining of which must rapidly become adherent to the peritoneal covering of the intestine. To accomplish the entire procedure takes less time than has been taken in describing it. The primary result is firm fixation of the caput in its normal position.

A Simple Method of Removing the Ureter When Doing a Nephrectomy.

(The Ohio State Medical Journal, July 15, 1911.)

Lilienthal (Annals of Surg., April, 1911, p. 521) reviews the conflicting statements of surgical authorities relative to the innocence of the ureter when it is left following a nephrectomy. He comments upon the various methods of disposal of the ureteral stump and dismisses them as unsatisfactory. Of the usual method of removing the ureter through the long lumbo-iliac incision he says that the extensive incision is not needed, provided the procedure described below is followed:

"Extra-peritoneal nephrectomy is done

by any of the approved methods. The ureter and vessels are tied separately, the ureter cut between two ligatures or forceps and the mucous membrane of the stump cauterized with 95 per cent. phenol. The ureter, if possible, is drawn out of the wound, isolated by gauze, the forceps or ligature removed, and a good sized, flexible ureteral bougie with conical or olive point is passed down to the bladder. A ligature tied tightly around the ureter and instrument holds it in place and prevents leakage from the ureter. The greater part of the lumbar wound may now be closed with drainage in the usual manner, and the patient turned on his back. An oblique incision one and one-half to three inches in length, about an inch internal to the anterior superior iliac spin, is made and carried through the muscles to the peritoneum. The finger can then easily find its way extra-peritoneally to the ureter. The ureter is separated and drawn with its coined bougie out of the wound. An assistant then withdraws the bougie from the nephrectomy wound and tightens the ligature. A gentle pull will deliver the upper portion of the ureter out of the inguinal wound. It may then be followed down to the bladder, ligated and cut off. This lower wound is closed with a very small forty-eight hour drain down to the bladder. This drain should be of rubber dam or gauze to avoid pressure necrosis of the iliac vessels." This method of removing the ureter is simple and adds but very little to the nephrectomy.

Malignant Endocarditis in New York City; A Clinical Study.

(By Thomas E. Satterthwaite, M. D., New York Medical Record, July 15, 1911.)

Malignant endocarditis is a very serious disease, often difficult of diagnosis, and usually fatal, even if all the resources of the physician have been called into play. Among pathologists it is believed to be a simple endocarditis which has become infected by poisonous germs. It then assumes so grave a type that the word malignant is an apt prefix. How long it has been known under this name is difficult to say; Bouillaud in 1835 found that it had been in use before his day. This great diagnostician described both a typhoid and a septic type, which latter he called gangrenous; he also recognized three varieties, the acute, subacute, and chronic. In 1889 the term malignant endocarditis appeared in Wilkes' and Moxon's Pathological Anatomy, apparently because in 1882 Goodhart, of Guy's Hospital, found a group of fatal cases associated with typhoid and scarlet fever.

Simple endocarditis, meaning the non-malignant variety, is not to be regarded as a fatal disease, except in so far as it produces death mechanically through embolism of some important organs, the brain or basal ganglia, for example. Even cerebral embolism may occur a number of times before there is a fatal issue, which only results after the embolism has cut off the blood current from important nerve centers.

Malignant endocarditis is so rare a disease that no one person can have had much personal experience with it.

In malignant endocarditis there is a poisoning by implantation in the inflammatory deposit of the valves; in adults chiefly those of the left heart, and in infants of the right heart. The poisoned emboli, together with aggregations of bacteria, are carried forward by the blood current into the greater circulation, infecting the entire system.

As to the frequency of malignant endocarditis in this city, in the Babies' Hospital of this city, in a total of 8,775 admissions during the term 1900-1911, the records do not show a single instance of the disease. This institution presumably limits its admissions to those under three years of age. In the New York Hospital

and St. Luke's, during a similar term, with admissions numbering 102,631, but one case had been recorded of a child under three years of age. So that under the age of three or four it must be extremely rare; in fact, it almost never occurs.

The Ovarian Hormone as the Cause of the Growth of Uterine Myoma.

(Münchener Medizinische Wochenschrift, June 13, 1911.)

Seitz invokes the hypothesis of a pathological ovarian hormone as the natural exciter of the growth of uterine myomata. That the latter are arrested by castration is, of course, well known, and it is also well understood that the ovary possesses a principle—or principles—which stands in close relationship not only to menstruation and uterine hyperplasia, but also to the growth and nutrition not alone of organs which constitute secondary sexual characters, but to other organs which bear no known relation to sex. The author believes that the same principle which presides over the increase of the muscle fibers of the uterus in pregnancy is also responsible for the growth of uterine myomata; but that in the latter case the hormone is no longer physiological but the product of a diseased ovary. This conception of hormone action is somewhat novel, but the original definition of hormones is such that it can be made to include any principle derived from an organ which when taken into the blood can modify the action of a remote organ. This view brings us at once to the subject of the causation of neoplasms in general. Hypothetical chemical substances have already been postulated as causes of tumors, for example, the attraxines of Fischer. To return to uterine myomata, their tendency to increase in size during pregnancy is well known, as is also the opposite tendency to improve even as soon as the puerperium. The favorable action of the X-rays on myomata appears to be due to their destructive action on the ovaries.

The Treatment of Eczema With Vaccines and Report of Cases.

(By John T. Farrell, M. D., The Providence Medical Journal, July, 1911.)

I will confine myself to a few obstinate cases that existed for years and resisted all forms of treatment until vaccines were employed. They start in the ordinary way with a few papules or erythema, followed by desquamation that get well after some simple treatment, to return soon in a more severe form and continue that way for a long time, causing great distress and resisting all efforts to cure. I believe such cases are due to some internal disturbance not yet fully understood. I hope the reports of the following cases will throw some light on the subject:

September 11, 1910, I was called to see Mr. J., 50 years old. History of eruption for four years, never without it somewhere, worse in summer. The face, arms, body and legs were covered with deep infiltration of the skin, scaling in places, weeping in other parts. A few scattered papules were found on the arms and fingers. He had not been able to sleep for some time on account of the intense itching. Various ointments and washes were used with little effect. September 16, a vaccine made from the contents of one of the papules on the wrist. Five minims containing 250,000,000 cocci was the initial dose. The infection was mixed in character, consisting chiefly of a large diplococus. On the 18th the dose was doubled, ten minims being given. This was continued every day until November 1, when he was free from all symptoms. I have not seen him since, so cannot state present condition.

In the summer of 1910 I saw Mrs. M.,

age 72. She was in bed because of extreme weakness and the extensive area involved. The urine contained pus on each examination. On October 28 a vaccine was made from a culture taken from the urine. She was given five minims, followed on the second day by ten minims. This treatment has been continued more or less ever since. She is free from all local trouble. The pus in the urine has disappeared. She is a happy, contented old lady, in better health than she has been for years.

I am indebted to Dr. Dwinell for the laboratory work on the first and second cases. The first case was a staphylococcus albus vaccine containing 350,000,000 bacteria in an initial dose of five minims. The second case was a mixed vaccine, mostly diplococcus. The initial dose was 250,000,000 bacteria. I am also indebted to Dr. Leary, of Boston, for the work in the third case. The vaccine was made from a colon bacillus taken from the urine. There were 500,000,000 bacteria in each c. c.

Rubberized Net as a Dressing in Skin Grafting.

After all the grafts have been placed and are ready to be mixed in position, Tennant applies a loose meshed bandage which has previously been prepared by immersing for twelve hours in a solution of rubber-tire cement diluted with benzine or gasoline, then dried and sterilized by boiling. The approximate end of the bandage is first tacked to the skin in several places with adhesive tape to avoid slipping of the bandage while it is being wound about the limb. Two or three complete laps are usually made, the ordinary gauze and cotton dressings applied, and the part enclosed in the bandage. The outer dressings may be removed at any time without disturbing the grafts or granulations underneath, and since the dressing is porous and the fabric impervious, it permits of the free escape of discharges, which may be washed from time to time without disturbing the surface underneath. This net remains in position until the grafts are thoroughly healed—from ten days to two weeks. If necessary, or desired, windows may be cut away from certain portions of the dressing without interfering with its effectiveness or disturbing the grafts.

A New and Simple Method of Removing a Renal Calculus.

(By Howard A. Kelly, M. D., Baltimore, The Journal of the American Medical Association, July, 1911.)

I have devised and used at intervals a transrenal plan of nephrolithotomy which, except in the simplest cases, with an easy exposure, is, I think, quicker and safer and better than pyelotomy or any other transrenal operation, and I am now inclined to accord to it a wide field of utility. It is as follows:

Technic.

A renal catheter 1.75 mm. in diameter, large enough to obturate the ureteral orifice and prevent a reflux of fluid into the bladder, is inserted through an open-air cystoscope and introduced well up to the kidney just before giving the anesthesia.

The patient is then put to sleep, preferably with gas, semiprone, on an Edebohls cushion. An incision is made in the loin and the superior lumbar triangle is pulled open and the kidney exposed and freed on all sides from its fatty capsule.

The stone is then felt and the kidney gently loosened as far as possible on all sides and brought towards the wound. Then an assistant forces fluid (1-1,200 silver nitrate) into the renal pelvis, until it puffs out tense. As a rule, with a careful preliminary study, the exact capacity of the renal pelvis is already known. Then when the pelvis and kidney are swollen up tense the surgeon first incises the capsule and then plunges a blunt-pointed and blunt-edged knife (see illus-

tration) through the cortex on the posterior surface, easily entering the renal pelvis at once and enlarging the incision, in a transverse direction if the stones are small. There is a gush of fluid which stops as he introduces his finger and feels for and finds the stone, which he at once grasps with a small stone forceps and removes.

The calices and the mouth of the ureter are now examined for more stones and the kidney is palpated on all sides with both hands, one finger being inside the renal pelvis. After all stones are removed, the wound is plugged or held closed, while the pelvis and the calices are again distended with the silver solution, when the finger is suddenly withdrawn, letting the fluid escape with a rush, bringing any small calculous *debris* with it. This may be repeated several times.

Influenzal Meningitis and Its Serum Treatment.

(By Simon Flexner, M. D., New York, The Journal of the American Medical Association, July, 1911.)

That influenzal cerebrospinal meningitis is by no means a rare affection is being shown by the increasing number of reports of its occurrence. Within a few months, in the United States alone, reports dealing with the subject have been published by Wollstein, Dunn, and Davis. Moreover, the disease is highly fatal. All but six of the fifty-eight cases thus far reported in which the influenza bacillus has been detected in the cerebrospinal fluid, have terminated fatally.

Influenzal meningitis is more frequent among infants and children than among adults. It sometimes follows on undoubted influenza bacillus infections of the respiratory tract, and sometimes develops independently of obvious disease of that tract. Since the influenza bacillus is often present in the secretions of the respiratory mucous membrane in children, suffering from a variety of diseases, during the wide prevalence of influenza, it is probable that the infection of the meninges is always secondary to the respiratory infection. Moreover, all or nearly all cases of influenzal meningitis are examples of bacteriemia, since the bacilli have frequently been cultivated in large numbers from the blood during life or at autopsy.

The fact of the frequency and severity of influenzal meningitis was impressed on us at the Rockefeller Institute, where, for a period of several years, large numbers of specimens of cerebrospinal fluid have been examined bacteriologically in connection with the studies being conducted there on the serum therapy of epidemic meningitis. All the cases diagnosed by us as influenzal meningitis terminated fatally.

We undertook, therefore, the experimental investigation of this highly fatal disease.

The experimental production of an influenzal meningitis was regarded merely as preliminary to the attempt to influence the course of the infection by means of the local application of a therapeutic agent. An efficient one for the experimental infection has been found in an immune serum prepared in the goat by the long continued, repeated injection of virulent cultures of *Bacillus influenzae.* Dr. Wollstein is reporting in detail on this phase of the subject in a forthcoming number of the Journal of Experimental Medicine.

Tuberculosis of the Kidneys.

(Deutsche Medizinische Wochenschrift, Berlin, May 25, 1911.)

Barth has traced to date thirty-seven patients whose kidney he had removed on account of tuberculosis; three others died. During the same period he had about forty other patients with renal tuberculosis who were not given operative

treatment for various reasons. Twelve of the thirty-seven patients recovered entirely after the nephrectomy and twelve were materially improved, while thirteen have died. Analysis of the cases shows that as long as the tuberculous process is restricted to one kidney and its ureter, nephrectomy promises a complete cure. But if the bladder is involved, a cure can be anticipated in only 25 per cent. of the cases; 25 per cent. of his patients succumbed during the year to the progress of the tuberculosis. The others all showed great improvement, but about 25 per cent. succumbed later to the tuberculosis, after an interval of from two to over nine years. Even when the tuberculous process in the bladder heals completely, it leaves permanent disturbances in the form of unduly frequent desires to urinate, particularly annoying at night. He admits the possibility of a spontaneous cure of open or closed turberculosis of the kidney, but declares that there is not the least prospect of such a cure after the tuberculous foci begin to break down and pyuria appears. The process then spreads rapidly along the lymphatics in the kidney itself and down toward the bladder. It is impossible to determine the actual healing of a tuberculous process in the kidneys except by repeated catheterization of the ureter; all other signs and information are deceptive and worthless. Nephrectomy with unilateral tuberculosis, normal functioning of the other kidney understood, is, he affirms, almost entirely free from danger. It should be advocated in every case of open tuberculosis of the kidney and if possible before the bladder is invaded. The open tuberculous process in the kidney can be detected in the incipient and early stages only with the aid of the ureter catheter; chromocystoscopy does not locate the seat of the process unless there is advanced destruction of kidney tissue. It is important, therefore, to insist on catheterization of the ureters and bacteriologic examination of the urine in every obscure case of pyuria ("catarrh of the bladder").

"AN OLD FAVORITE IN A NEW FORM."

The frequency with which we have to give iron, quinine and strychnine and the intense bitterness of the common liquid form of this combination makes any improvement of interest. After long experimentation, the Lilly laboratories have developed a formula, offered as Coco I. Q. & S., which is bitterless and palatable. It also contains from two to four times as much quinine as the ordinary elixir. Coco I. Q. & S. contains one grain of quinine sulphate to each average teaspoonful, 96 minims, whereas most elixirs represent but ¼ grain of quinine to this volume. The quinine in Coco I. Q. & S. exists in the unchanged form of crystals suspended in a chocolate flavored, syrupy medium, which masks their bitterness, also that of the strychnine. In elixirs the quinine is in solution, supersaturation and consequent precipitation occurs when attempts are made to raise the quinine content. Coco I. Q. & S. is not only stronger than the elixir, but is so palatable that a child will take it as readily as an adult. Furthermore, it is not known to the laity as elixirs are, and can be prescribed without the patient recogniizng the treatment which in certain cases is a decided advantage. A request addressed to Eli Lilly & Co., Indianapolis, will bring you a sample.

From the Lay Press.

SALUDA MEDICAL SOCIETY MEETS.

(The News and Courier, July 13, 1911.)

Saluda, July 12.—Special: The Saluda County Medical Society held its regular meeting at Ridge Spring yesterday. The morning session was devoted to public health and sanitation. On these important matters addresses were delivered by Dr. James A. Hayne, chairman of the

State Board of Health, and by Dr. R. A. Boyd, of the health department of Columbia. The officers of the Medical Society of this county are: Dr. Frontis, of Ridge Spring, president, and Dr. Waters, of Saluda, secretary.

WHEREIN DR. WILEY OFFENDED—PROBABLY USED WRONG METHOD IN CIRCUMVENTING LAW.

(The News and Courier, July 17, 1911.)

Washington, July 16.—Special: As if the trouble they have brought upon themselves and the administration by the "ousting" of Gifford Pinchot and the attempt to turn Alaska over to syndicate exploitations were not enough, the reactionaries, who seemed to be running things in departmental circles at Washington have now opened their batteries on Dr. Harvey W. Wiley, chief of the bureau of chemistry of the department of agriculture, who enjoys a wide and well-earned fame as a foe of adulteration in food and drugs. And in this latest work the reactionaries are fortified, as in the other case, with an opinion from the Attorney General of the United States.

It is well known that for years Dr. Wiley has been harassed and obstructed in every conceivable way in his efforts to make the food and drug manufacturers live up to the law. There is a reason to believe that his resignation would have been received gladly by the previous administration, as well as this one, but there was nothing against him, and he was an enthusiast in his work, and had no idea of relinquishing it just because the interests in favor of loose construction of the pure food laws were attacking him. So he held on and threw his whole strength into the fight against adulteration. Sometimes, perhaps, he has gone too far, but, on the whole, it is the opinion of nine out of ten American citizens of intelligence that Dr. Wiley has done vast good, and that it would be a bad thing for the health of the country if he were driven from his official watch tower.

Nature of the Crime.

The henious offense of Dr. Wiley, which has filled his enemies with rejoicing, and caused the Attorney General to recommend that the doctor "be allowed to resign," is that he exceeded the agricultural department's pay scale in employing an assistant expert, Dr. H. H. Rusby, head of the New York College of Pharmacy, for special work.

Dr. Rusby's services were needed only occasionally, but he was unwilling to give them unless he received as much as $50 a day if he had to testify and $20 a day for researches in his laboratory. The regulations of the agricultural department forbid the payment of more than $11 a day to any one individual for such expert services. Dr. Wiley—with the knowledge of Secretary Wilson, who doesn't cut any prettier figure in this case than he did in that of Pinchot—got around the difficulty by putting Dr. Rusby on the department's pay roll at $1,600 a year. Much of the time Dr. Rusby did nothing for the department, and thus Dr. Wiley was able to make the daily rate of pay, when Rusby did serve, equal to the expert's demands. It is not denied that it would be impossible to get an expert chemist of high standing to do the same work at any cheaper rate.

'Twas to Be a Quiet Killing.

The personnel board of the department of agriculture, after considering this offense, reported that Dr. Wiley should be dismissed from the government service. Then the case was put up to the department of justice and Mr. Wickersham, as has been said, sustained the finding that the guilt of the doctor was plain, but kindly recommended that he be allowed to resign.

All of this was done without the public's getting a whiff of it, and only after the papers had been sent to the President

did the news leak out—and then by way of New York. It was evidently intended that the slaughter should be effected without publicity. But Dr. Wiley did not take "the frendly tip" to resign, and thus escape all unpleasantness and uproar He didn't "scare," and as a result the President is confronted with the embarrassing alternative of turning down either Dr. Wiley or the Attorney General.

Mr. Taft may resort to the recourse of a "compromise" and let Dr. Wiley off with a reprimand. If the doctor were dismissed another priceless addition would be made to the wealth of campaign material now in the hands of the Democracy for the 1912 contest.

Wickersham Beam vs. Wiley Mote.

Representative Beall, of Texas, chairman of the House Committee on Expenditures in the department of justice, remarks that the records of his committee's recent investigation throws a sinister light upon the condemnation of Dr. Wiley by Attorney General Wickersham.

In the statement of expenditures for expert assistance in the department of justice's "trust busting" cases it is shown that F. B. Kellogg, in addition to his fees of $59,000 for assistance in the proceedings against the Standard Oil Company, drew $13,081, or over $71 per diem, for personal traveling expenses from September 30, 1908, to April 1, 1909. These statements of personal expenses were not itemized.

The amount is largest in Mr. Kellogg's case, but there are many other instances of the same sort in the record. Chairman Beall says that the offense of Dr. Wiley was insignificant in comparison with those of Mr. Wickersham in the latter's own department. The Attorney General's private secretary, Mr. Cole, was allowed $100 a day for his expenses on a trip to New York City. The amount was paid without a murmur, but Dr. Wiley is bitterly condemned for paying a scientist of repute $50 a day for expert services in the public behalf.

Noble Tweedledum and Naughty Tweedledee.

The trusts and combinations cannot fail to be edified when they read the semi-official analysis of Dr. Wiley's crime, as printed in the following language in one of the Washington newspapers:

"The point made at the department of agriculture today is that the law limiting the payment of fees and salaries to experts and other employees can be circumvented, but that Dr. Wliey, in employing Dr. Rusby, circumvented the law illegally, whereas he might have done so legally. This, it is pointed out, constitutes a technical error. It was officially stated that if Dr. Wiley had taken proper advice, he could have employed Dr. Rusby regularly as a per diem employee, and then could have made a separate bargain with him for appearance as an expert whenever his services were required. If Dr. Wiley had taken this method there could have been no criticism, and the result would have been the same."

Thus we see that tweedledum is entirely unobjectionable, and even praiseworthy, while tweedledee is reprehensible in the extreme.

It is a horrible thing, moreover, for Dr. Wiley to make a loose contract at $1,600 a year for expert aid for the bureau of chemistry, but it is all right for the administration, without any definite warrant in law, to fasten to his bureau a referee board of consulting chemists, at a cost of $60,000 per annum, and sometimes more. This is the celebrated "Remsen Board," which has been in existence about three years, and has rendered four decisions, among them the celebrated one reversing Dr. Wiley in his stand against benzoate of soda as a food preservative. Since then the Prussian

board of experts has decided with Dr. Wiley and against the Remsen Board.

In protesting against the payment of this referee board, Representative Lever, of South Carolina, said in a speech in 1909 that he regarded the board as existing, not only without authority of law, but in actual defiance of the law prohibiting it. Many other members agreed with Mr. Lever in that statement, and agree with him yet, but that is a case of $60,000 a year, whereas Dr. Wiley's expert cost $1,600.

K. Foster Murray.

To Attend Medical Meeting.

(The News and Courier, July 7, 1911.)

St. Matthews, July 6.—Special: The District Medical Association, comprising the counties of Lexington, Calhoun, Orangeburg and Bamberg, will meet in St. Matthews July 18 at 11 o'clock. With favorable weather this promises to be the biggest and best district meeting in the low country for the past number of moons. Specialists from Charleston and Columbia will be here to give their views and Dr. D. M. Crosson, equally well known as Lexington county's senator, and a cancer specialist, will be on hand to enlighten the brethren on the inner secrets of his hobby. Dr. Sophia Brunson, the hustling secretary of the Association, is sparing no effort to make it the banner meeting.

Gaffney Hospital to Open.

(The State, July 19, 1911.)

Gaffney, July 18.—It has been announced by the directors of the City Hospital that the formal opening of the institution will take place August 1. The directors have been working earnestly for the opening and a very elaborate programme has been completed. At the opening Dr. Frank Martin, of Baltimore, Md., will hold a clinic, to which the doctors of the city, county and State are invited.

Although the formal opening of the hospital has not yet taken place, the hospital is already in use and a number of patients have been treated there. The hospital is one that the city and county may well feel proud of. It is second to none in the State in point of completeness of equipment, and the building is as pretty as may be found in any city of the State. The building was made possible by the public, as it is owned by the representative business men of the city, while almost every one in the city has helped the movement in some way. It is complete and up-to-date, with five attending physicians already.

Health Board Decides in Favor of Free Distribution.

(The News and Courier, July 20, 1911.)

Dr. Robert Wilson, chairman of the State Board of Health, returned to this city from Columbia last night, having attended the meeting of the board in the capital city. Dr. Wilson stated that the hosiery mill situation had been discussed, but that the board had nothing to act on, and so had taken no definite action.

An important feature of the meeting was the fact that the board decided to issue typhoid vaccine free. This is believed to be a great step in advance and brings South Carolina to the attention of the medical world, this being the second State to adopt the plan. The vaccine will be issued by the State health officer from his office in Columbia.

Dr. C. Fred Williams, of Columbia, has arrived in New York on his way to Europe, and is registered at the Hotel Woodward, Broadway and Fifty-fifth street.—The State, July 6, 1911.

Hospital Corner Stone Laid.

(The News and Courier, July 7, 1911.)

Greenwood, July 6.—Special: The corner stone of the Greenwood Hospital was laid yesterday afternoon by the Greenwood Lodge No. 91, A. F. M. The Grand Master of the State, Hon. Jas. R. Johnson, of Charleston, could not attend, and Hon. R. A. Cooper, Grand Junior Warden of Laurens, was selected by Greenwood Lodge to act in the place of the Grand Master. The interesting and impressive ceremonies were witnessed by a number of people from town, all of whom take a great interest in the work of the building of the hospital. The rapid progress of the work is a source of great gratification to all. The need of the hospital is realized by everyone.

Red Shirt Survivors Meet.

(The State, August 1, 1911.)

Yorkville, July 31.—Special: Pursuant to a call by Dr. J. H. Saye, of Sharon, there was an enthusiastic meeting of 75 or 100 Red Shirt survivors of 1876. The meeting was called to order by Dr. J. H. Saye, who made appropriate remarks and who was elected chairman, with J. J. Hunter, of Yorkville, as secretary. The object of the meeting was to arrange for the State reunion to be held in Columbia September —.

Lexington Doctors Meet.

(The State, July 27, 1911.)

Lexington, July 6.—Special: The Lexington County Medical Society held its regular meeting on Monday in the offices of the secretary, Dr. J. J. Wingard. There were two very excellent papers read—one by Dr. W. P. Timmerman, of Batesburg; the other by Dr. J. J. Wingard, of Lexington. A committee was named to prepare a programme for the big annual meeting on the first Monday in October. Dr. Brunson, of Ridge Spring, was a welcome visitor on Monday.

Dr. C. P. Aimar Honored.

(The News and Courier, July 27, 1911.)

Norfolk, Va., July 26.—Atlantic Coast Line Railway Surgeons' Association Convention concluded its annual meeting here today. President, Dr. Parrott, of Kinston; first vice president, Dr. E. J. Boyd, of Jacksonville; second vice president, J. M. West; secretary and treasurer, Dr. C. P. Aimar, of Charleston, S. C., were the officers elected.

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